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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/282,238	03/31/1999	ALESSANDRO FORIN	MS-77APP1(11	8338
23460	7590	10/20/2004	EXAMINER	
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			ART UNIT	PAPER NUMBER
			2126	18

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/282,238

Applicant(s)

FORIN ET AL.

Examiner

The Thanh Ho

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5-21,23,24 and 26-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-21,23,24 and 26-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7/7/03 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the amendment filed 3/14/2003.
2. Claims 2-3, 5-21, 23-24, and 26-37 have been examined and are pending in the application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merrick U.S Patent No. 6,339,841.

As to claim 3, Merrick teaches a method of providing a dynamically configurable system (dynamic loading, line 25 column 1) on a computer (client, Fig. 2) having a working memory (RAM memory, line 18 column 1), comprising:

providing demand-loadable components (component object code 16 and 18A-18C, Fig. 1) initially stored outside of said working memory (stored in the server, line 58 column 4), each component having an entry point comprising a constructor for an object (compiled using a Java compiler or Javac to the object code or byte code, lines 30-31 column 3);

providing a Namespace (combination of 22, 24, 26 and 28, Fig. 2) in said working memory (RAM memory, line 18 column 1) which provides access to (uses a load method invoker to retrieve the method component that has not been loaded onto the client, lines 22-24 column 4) components (component object code 16 and 18A-18C, Fig. 1) as they become needed by applications running in the computer (dynamic loading when needs to run the application or applet, lines 25-32 column 1); the Namespace (combination of 22, 24, 26 and 28, Fig. 2) managing demand-loading (lines 8-27 column 4) and unloading (...redundant method components may be removed from the program domain to save memory..., lines 20-22 column 5) of the components (component object code 16 and 18A-18C, Fig. 1) in the working memory (RAM memory, line 18 column 1).

Merrick does not explicitly teach the components are operating system components. However, Merrick (lines 14-22 column 1) teaches the advantages of dynamic loading libraries of classes when they are needed by an application running within an operating system. Therefore one of ordinary skill in the art would conclude that the components of Merrick are operating system components because by dynamically loading these components when they are needed by an application, the system could reduce the RAM memory required to run the application as disclosed by Merrick (lines 9-24 column 1).

As to claim 2, Merrick as modified further teaches demand-loadable operating system components are initially provided in a location external of the computer (stored in the server, line 58 column 4).

As to claim 5, Merrick as modified further teaches the applications rely on the Namespace to furnish access to one of the operating system components, as they become needed by one of the applications (...other blocks of data representing methods can be loaded as and when required by the programming domain..., lines 18-20 column 5).

4. Claims 6-21, 23-24 and 26-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merrick in view of King U.S Patent No. 6,681,263.

As to claim 6, Merrick as modified further teaches each operating system component comprises an object (compiled using a Java compiler or Javac to the object code or byte code, lines 30-31 column 3). However, Merrick does not explicitly teach object interface and object reference count.

King teaches a system of controlling the lifetime of software object (lines 7-9 column 1) wherein the object having an IUnknown interface (interface called IUnknown, line 35 column 1; acquire interface pointers to the object's interface, lines 37-38 column 1) with methods: add reference for incrementing a count of the number of applications requiring the object (...whenever an interface pointer is passed to a new client, the object adds one to its reference count..., lines 49-50 column 1); release reference for decrementing a count of the number of applications requiring the object (...when the client is done with the interface pointer, it must call Release on that pointer. This causes the object to decrement its counter..., lines 55-57 column 1). It would have been obvious to apply the teachings of King to the system of Merrick because reference

counting allows the system to determine when an object will stop executing as disclosed by King (lines 30-36 column 1).

As to claim 7, it is a method claim of claim 6. Therefore, it is rejected for the same reasons as claim 6 above. King further teaches QueryInterface method providing access to the methods of the object to an application invoking QueryInterface (method that client uses to acquire interface pointer to the object's interface, lines 37-38 column 1).

As to claim 8, King further teaches the object is a COM object (COM object, line 20 column 1).

As to claim 9, it is a method claim of claims 3 and 5-7. Therefore, it is rejected for the same reasons as claims 3 and 5-7 above.

As to claim 10, Merrick as modified further teaches a loader (class loader, line 25 column 4), Namespace determines whether the name of the object is currently registered in the Namespace (...a method that was not initially loaded as part of the minimum class requirement would have a method table pointer to a method loading invoker routine. When the method is needed, a lookup on the method table would lead to a method loader call to load the method. The present embodiment uses a load method invoker, modified class loader, to retrieve the method component that has not been loaded onto the client..., lines 17-24 column 4), if not, causes the loader to load said object into said working memory and registers the name in the Namespace (...If this is successful the x.meta component 16 is loaded into the client and the description component 22, constant pool 24, method table 26 and invoker components 28 set up as

in FIG. 2. The modified class loader then sets the non-loaded method pointers in the method table to point at a method loader invoker 28 so that a non-loaded method is loaded immediately when it is referenced..., lines 39-46 column 4).

As to claim 11, Merrick as modified further teaches the object has a constructor and an entry point (class.x description 22, Fig. 2); the loader invoking the constructor (lines 8-27 column 4); the constructor finding the entry point of the object and calling an executable at the entry point (...when the method is needed, a lookup on the method table would lead to a method loader call to load the method..., lines 20-22 column 4); the executable causing space in the working memory to be allocated for a VTable (method table 26, Fig. 2), an Interface and an Implementation of the object and producing a pointer (pointer in the method table, line 6 column 4) to the memory space, the pointer comprising the IUnknown pointer.

As to claim 12, Merrick as modified further teaches loading the VTable, Interface and Implementation in the space in the working memory allocated therefore (...the x.meta component 16 is loaded into the client and the description component 22, constant pool 24, method table 26 and invoker components 28 set up..., lines 39-42 column 4); initializing the state of the object including the VTable and interface pointers (...The modified class loader then sets the non-loaded method pointers in the method table to point at a method loader invoker 28 so that a non-loaded method is loaded immediately when it is referenced..., lines 42-46 column 4).

As to claim 13, it is a computer system claim of claims 3 and 9-10. Therefore, it is rejected for the same reasons as claims 3 and 9-10 above.

As to claim 14, it is a computer system claim of claims 7 and 11. Therefore, it is rejected for the same reasons as claims 7 and 11 above.

As to claims 15-17, they are computer system claims of claims 10-12, respectively. Therefore, they are rejected for the same reasons as claims 10-12 above.

As to claim 18, it is a computer system claim of claims 3 and 7. Therefore, it is rejected for the same reasons as claims 3 and 7 above.

As to claims 19-20, they are computer system claims of claim 3. Therefore, they are rejected for the same reasons as claim 3 above.

As to claim 21, King further teaches permitting the object to remain in working memory after being no longer needed by the application in order to permit other applications to access the one object (...A client may start an object, acquire interface pointers to the object's interfaces, and then pass those interface pointers on to other clients which may in turn pass them on to still other clients. If the first client were to delete the object when the first client was done with the object, the other clients may not be able to complete their use of the object..., lines 38-43 column 1).

As to claim 23, it is a computer system claim of claim 2. Therefore, it is rejected for the same reasons as claim 2 above.

As to claims 24 and 26-30, they are computer system claims of claims 3, 5-8 and 10, respectively. Therefore, they are rejected for the same reasons as claims 3, 5-8 and 10 above.

As to claims 31-32, they are computer system claims of claim 11. Therefore, they are rejected for the same reasons as claim 11 above.

As to claim 33, it is a method claim of claims 3, 7 and 9. Therefore, it is rejected for the same reasons as claims 3, 7 and 9 above.

As to claim 34, it is a method claim of claim 10. Therefore, it is rejected for the same reasons as claim 10 above.

As to claim 35, it is a method claim of claims 3, 7 and 9. Therefore, it is rejected for the same reasons as claims 3, 7 and 9 above.

As to claim 36, it is a method claim of claim 10. Therefore, it is rejected for the same reasons as claim 10 above.

As to claim 37, King further teaches virtual memory space interface, virtual memory map interface, and virtual memory view interface (object's interfaces, line 39 column 1).

Response to Arguments

5. Applicant's arguments filed 3/14/2003 have been fully considered but are moot in view of the new ground(s) rejection.

Applicant's arguments presented issues which required the Examiner to further view the previous rejection. The Examiner conducted a further search regarding the issues mentioned in Applicant's response. Therefore, all arguments regarding the cited references of the previous rejection are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to The Thanh Ho whose telephone number is (571) 272-3762. A voice mail service is also available for this number. The examiner can normally be reached on Monday – Friday, 8:30 am – 5:00 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

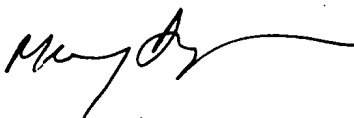
Any response to this action should be mailed to:

Commissioner for Patents
P.O Box 1450
Alexandria, VA 22313-1450

Or fax to:

- AFTER-FINAL faxes must be signed and sent to (703) 872 - 9306.
- OFFICAL faxes must be signed and sent to (703) 872 - 9306.
- NON OFFICAL faxes should not be signed, please send to (571) 273 – 3762

TTH
October 15, 2004


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